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(54) **ILLUMINATED DISPLAY UNIT**

(56) **References Cited**

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F21S 10/00 (2006.01)

F21S 10/06 (2006.01)

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(2013.01)

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362/619, 628, 334, 318, 186; D21/469;
D20/21

See application file for complete search history.

U.S. PATENT DOCUMENTS

4,649,280 A	3/1987	Holland	
4,791,745 A	12/1988	Pohn	
4,949,489 A	8/1990	Rudell et al.	
5,324,224 A *	6/1994	Anderson et al.	446/91
6,028,977 A	2/2000	Newsome	
6,283,604 B1 *	9/2001	Liao	362/84
6,601,964 B2 *	8/2003	Wang et al.	362/84
7,264,367 B2	9/2007	Hulse	
D577,075 S *	9/2008	Bode	D20/43
7,430,355 B2	9/2008	Heikenfeld et al.	
7,537,947 B2	5/2009	Smith et al.	

(Continued)

FOREIGN PATENT DOCUMENTS

WO 2004099664 A1 11/2004

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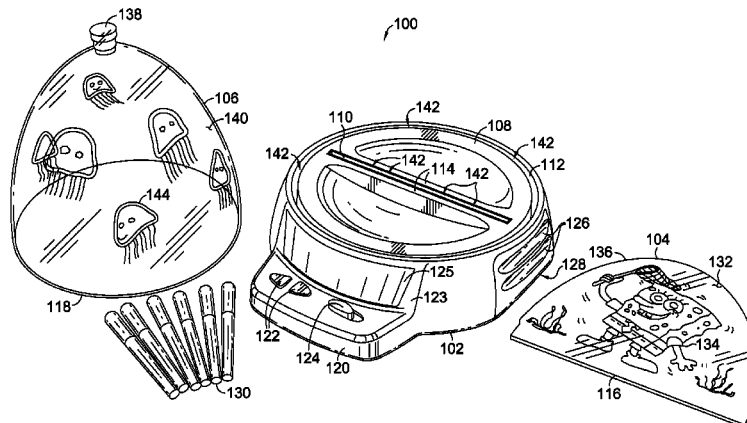
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LLP

(57) **ABSTRACT**

An illuminated-display unit useable to provide artwork with rotating, glowing effects is described. The illuminated-display unit includes a base, a plate, and a dome. The base has a top surface with a central receptacle and an annular channel, a control panel, and light sources housed therein. The plate is disposed within the receptacle and the dome is disposed on the base to engage the annular channel and thereby accept the plate within its interior. Ink drawings or artwork are drawn on surfaces of the plate and the dome. The light sources are illuminated to provide internally reflected light within the plate and base. The ink on the plate and base refracts the internally reflected light and/or chemically or physically reacts thereto to provide a glowing effect. The dome and/or the plate are rotatable manually or mechanically to provide an animated effect to the illuminated display.

20 Claims, 6 Drawing Sheets



(56)

References Cited

U.S. PATENT DOCUMENTS

7,594,349 B2 9/2009 Rudell et al.
 2004/0093776 A1* 5/2004 Laun 40/409
 2005/0201899 A1 9/2005 Weisbuch
 2005/0271452 A1* 12/2005 Yu et al. 401/123

2006/0188873 A1 8/2006 Abel et al.
 2006/0268541 A1* 11/2006 Schou 362/171
 2008/0113578 A1* 5/2008 McAlaine et al. 446/75
 2009/0233265 A1* 9/2009 Budryk et al. 434/412
 2010/0053952 A1* 3/2010 Levon 362/235

* cited by examiner

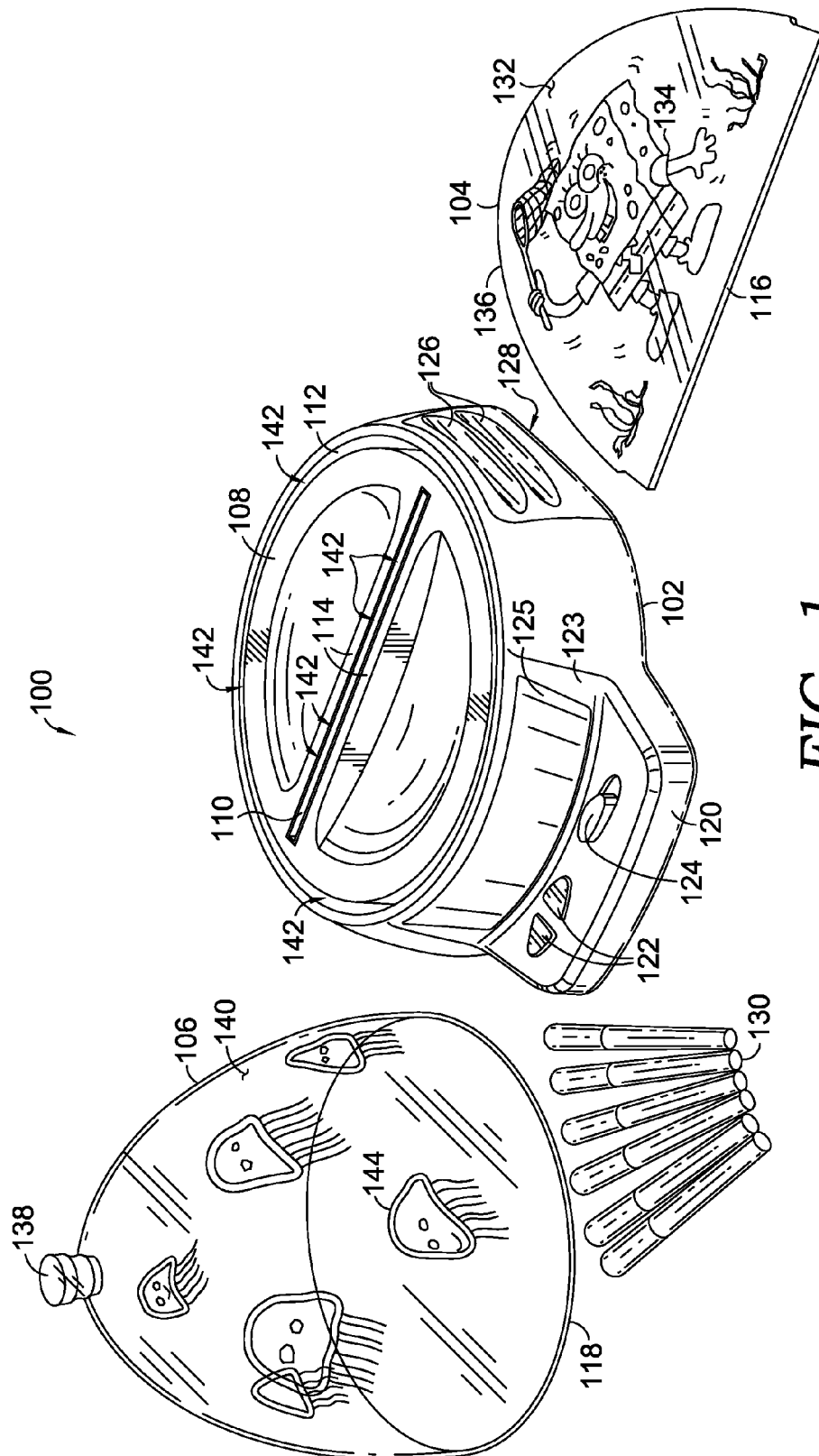


FIG. 1.

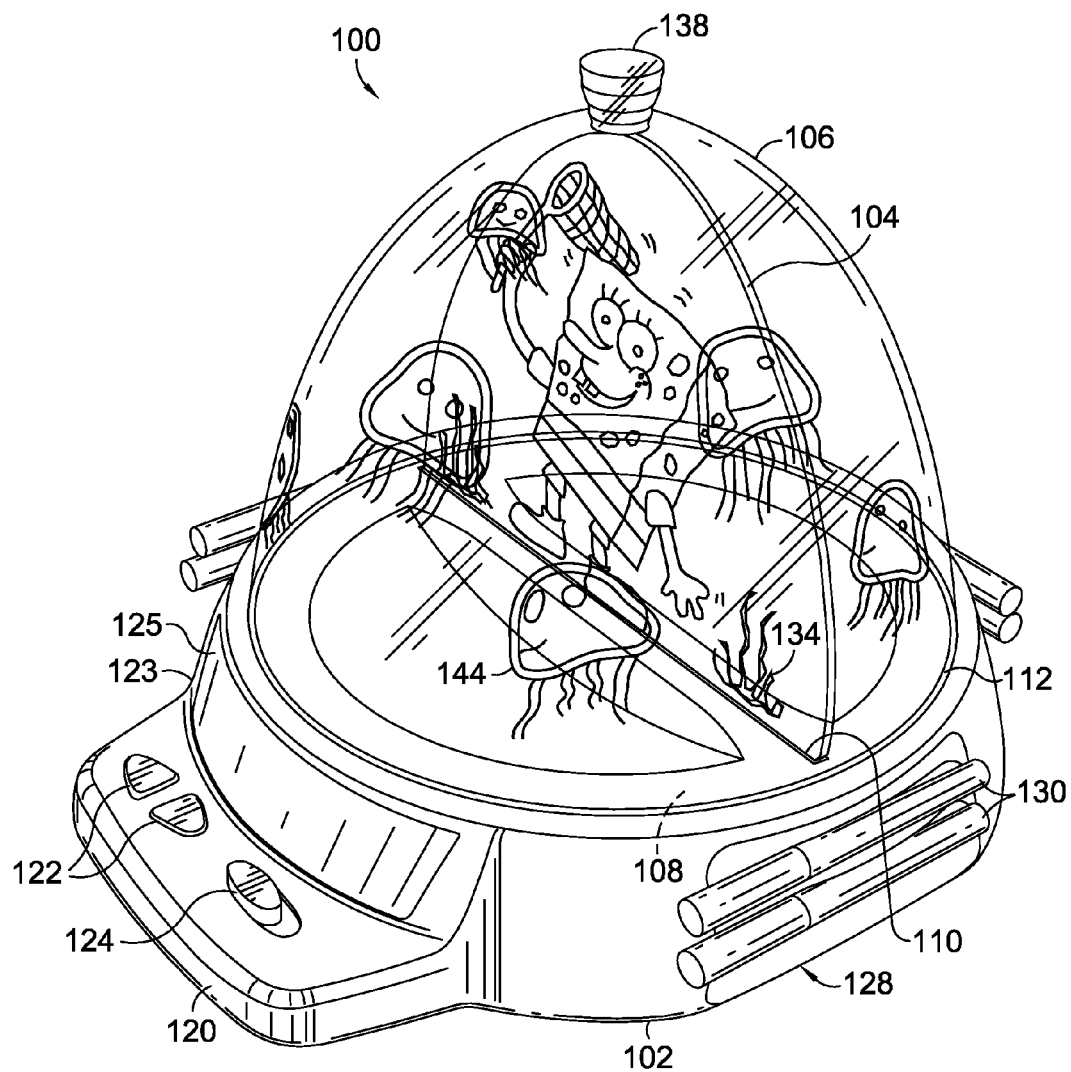
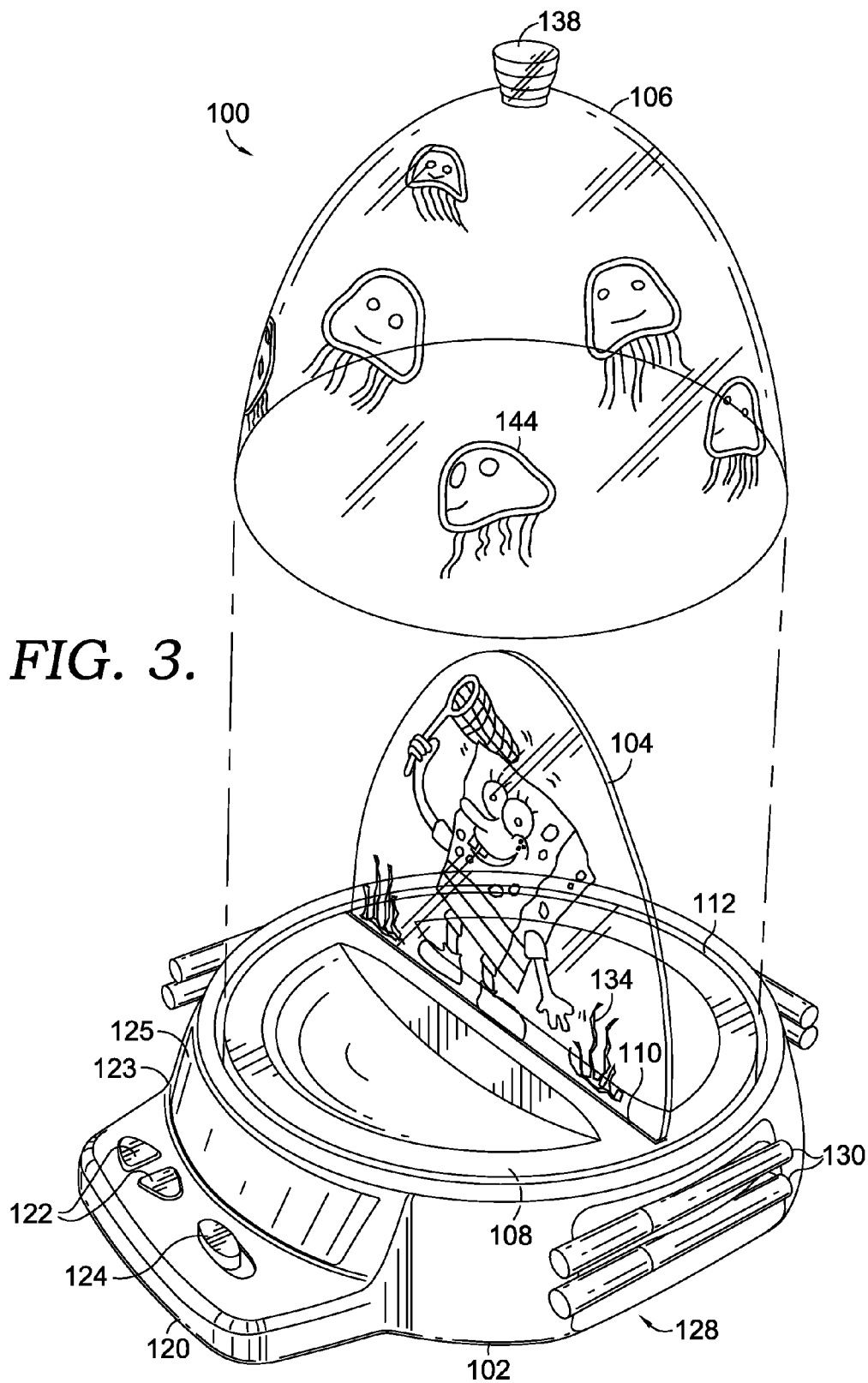


FIG. 2.



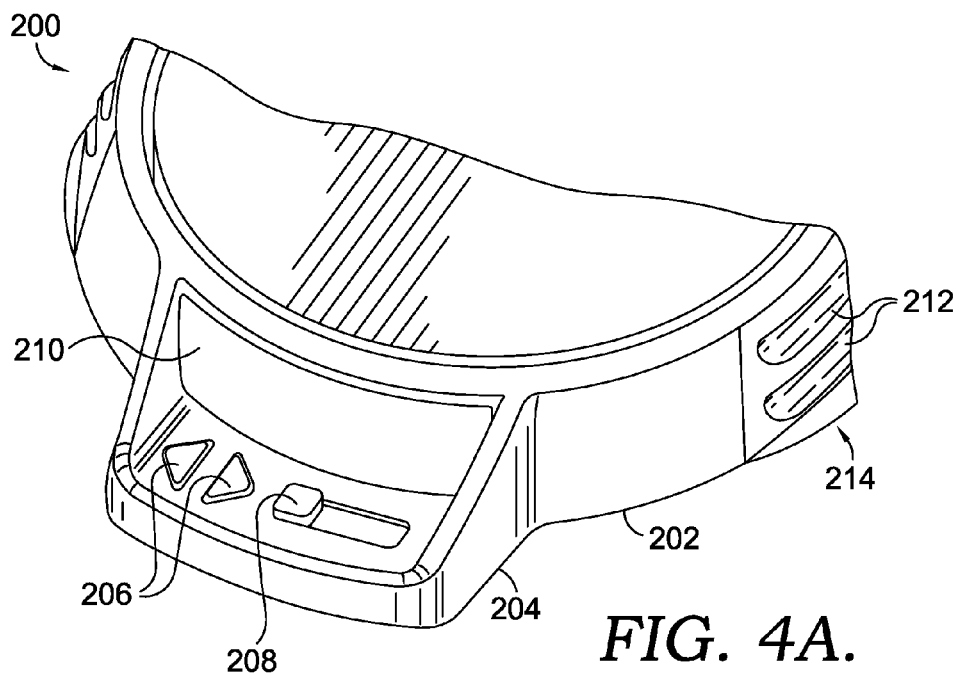


FIG. 4A.

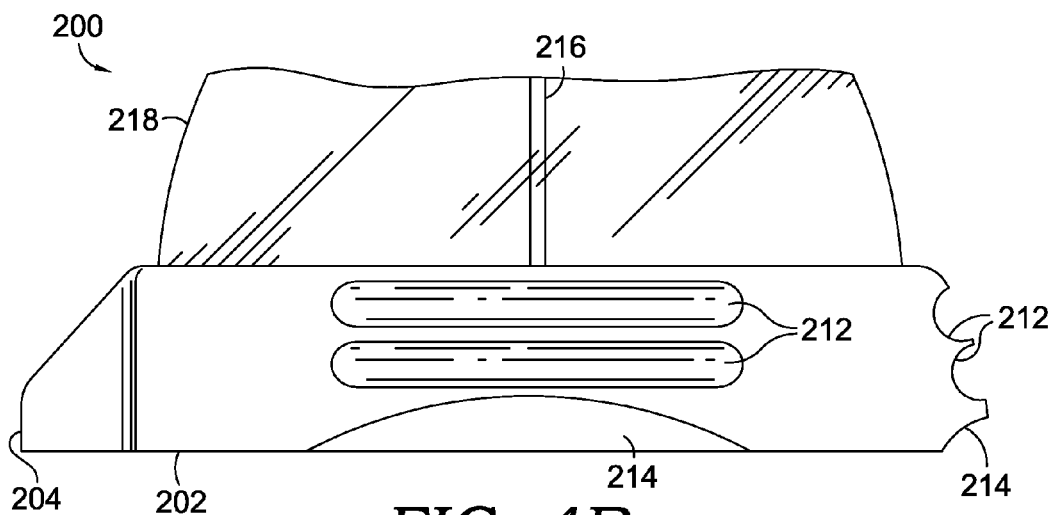


FIG. 4B.

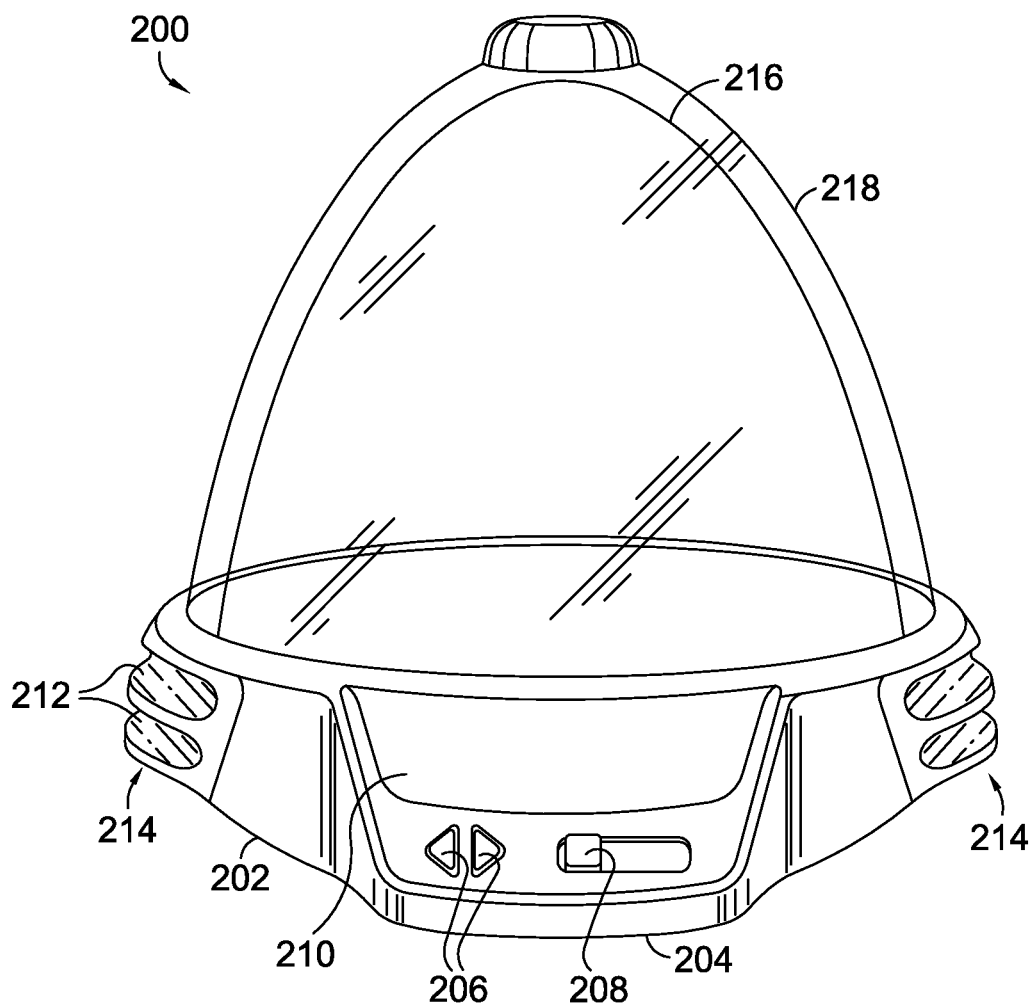


FIG. 5.

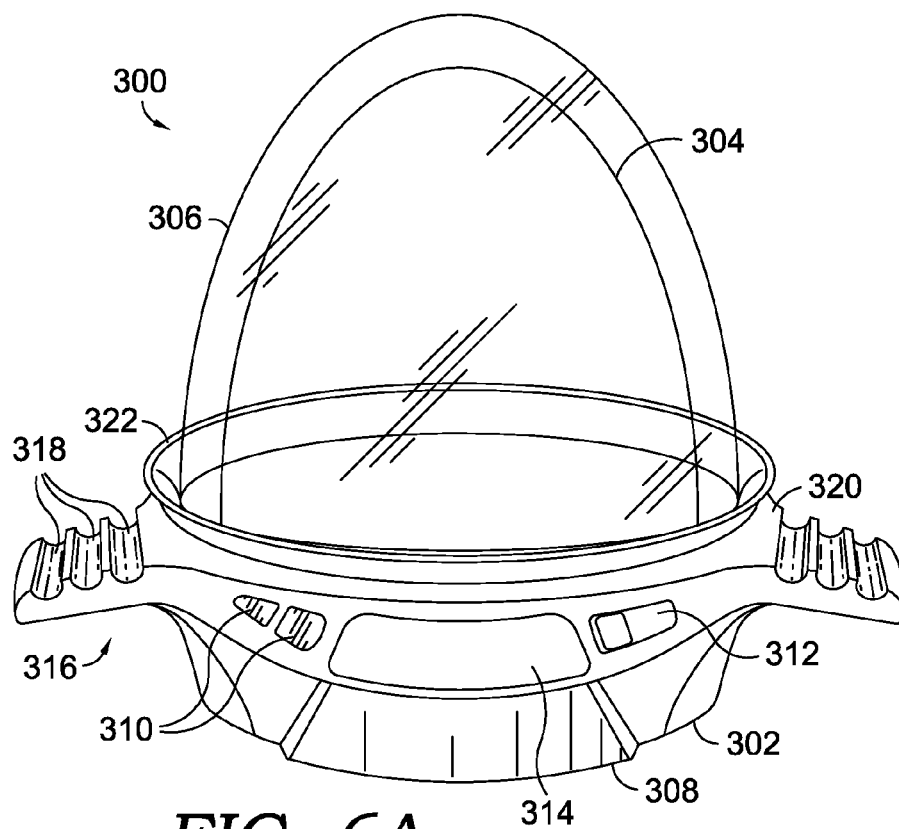


FIG. 6A.

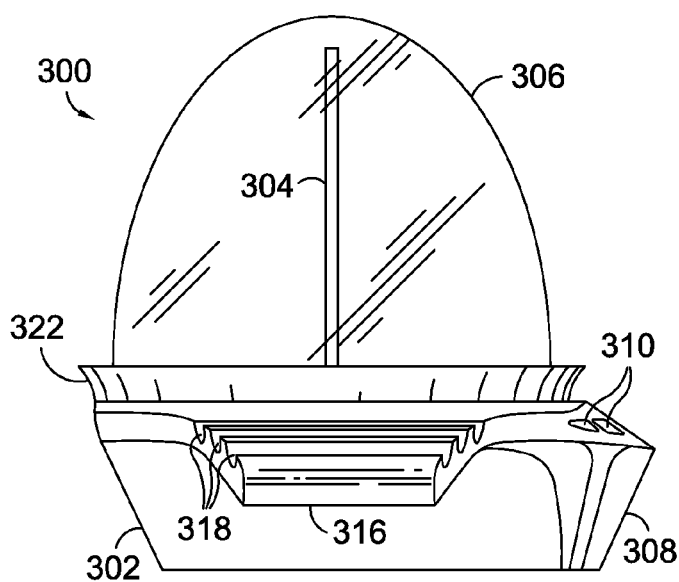


FIG. 6B.

1

ILLUMINATED DISPLAY UNIT**CROSS-REFERENCE TO RELATED APPLICATIONS**

This application claims priority to Provisional Patent Application No. 61/226,926 filed Jul. 20, 2009 which is hereby incorporated by reference herein in its entirety.

BACKGROUND

Many drawing display units are known in the art, such as, for example, chalkboards, dry erase boards, or simply a frame or an easel on which to place a work piece. Generally, such units are designed to display drawings and artwork under daylight or well lit conditions. The units may also utilize various light sources in order to adequately illuminate a drawing or artistic composition for viewing by observers. The lighting illuminates the entire work, including any drawings and a substrate on which the drawings are created. These devices do not take advantage of clear drawing substrates or unique illumination characteristics available therein.

SUMMARY

Embodiments of the invention include an illuminated-display unit having a base, a clear plate, and a clear dome. A user draws one or more drawings, images, or other figures on surfaces of the plate and the dome. The plate is then received by a top surface of the base via a receptacle thereon. The dome is placed on the base and receives the plate within an interior void of the dome. A user activates one or more light sources housed within the base in order to illuminate the drawings placed on surfaces of the plate and the dome. When viewed under low ambient light conditions, the drawings on the plate and the dome are illuminated by the light sources in the base and provide a pleasing and exciting glowing effect to the drawings. Additionally, the dome may be rotated about the base in order to provide an animated view of the drawings on the dome with respect to the plate.

BRIEF DESCRIPTION OF THE DRAWINGS

Illustrative embodiments of the invention are described in detail below with reference to the attached drawing figures, and wherein:

FIG. 1 is a perspective view depicting components of an illuminated-display unit in an unassembled condition in accordance with an embodiment of the invention;

FIG. 2 is a perspective view of the illuminated-display unit of FIG. 1 in an assembled condition in accordance with an embodiment of the invention;

FIG. 3 is a perspective view depicting the illuminated-display unit of FIGS. 1 and 2 with a dome detached from a base in accordance with an embodiment of the invention;

FIG. 4A is a perspective view of a base of an illuminated-display unit in accordance with an embodiment of the invention;

FIG. 4B is a side elevational view depicting an illuminated-display unit in accordance with an embodiment of the invention;

FIG. 5 is a front perspective view of an illuminated-display unit in accordance with another embodiment of the invention;

FIG. 6A is a front perspective view of an illuminated-display unit configured to resemble a spaceship in accordance with an embodiment of the invention; and

2

FIG. 6B is a side elevational view of the illuminated-display unit of FIG. 6A in accordance with an embodiment of the invention.

DETAILED DESCRIPTION

The subject matter of embodiments of the invention is described with specificity herein to meet statutory requirements. But the description itself is not intended to necessarily limit the scope of claims. Rather, the claimed subject matter might be embodied in other ways to include different steps or components or combinations thereof similar to the ones described in this document, in conjunction with other present or future technologies. Terms should not be interpreted as implying any particular order among or between various steps herein disclosed unless and except when the order of individual steps is explicitly described.

Embodiments of the invention are directed to an illuminated-display unit and methods for illuminating a drawing. In an embodiment, an illuminated-display unit is described. The illuminated-display unit includes a base including a top surface that includes a receptacle and an annular channel. The base also includes light sources disposed within the base. The illuminated-display unit also includes a plate configured to be at least partially disposed within the receptacle. The plate has a generally planar shape and includes surface properties suitable to at least temporarily accept an ink thereon. A dome is also disposed atop the top surface of the base and engages the annular channel. The dome has a hollow domed structure configured to accept the plate therein and has surface properties suitable to at least temporarily accept the ink thereon.

In another embodiment, a method for illuminating a drawing is described. An illuminated-display unit is provided that includes a base with a top surface having a receptacle and an annular channel and light sources disposed within the base. The illuminated-display unit also includes a plate configured to be at least partially disposed within the receptacle, has a generally planar shape, and includes surface properties suitable to at least temporarily accept an ink thereon. The illuminated-display unit also includes a dome that is disposable atop the top surface of the base and engages the annular channel. The dome has a hollow domed structure configured to accept the plate therein and has surface properties suitable to at least temporarily accept the ink thereon. The ink is applied to surfaces of the plate and dome. The plate is inserted into the receptacle of the top surface of the base. The dome is disposed over the plate and engages the annular channel. The light sources in the base are illuminated.

In another embodiment, an illuminated-display unit is described. The illuminated-display unit includes a base including a top surface having a receptacle and an annular channel, a control panel on an exterior surface having components for controlling light sources housed within the base. A plate that is disposed within the receptacle, has a generally planar shape and comprises a material with surface properties suitable to at least temporarily accept an ink thereon is also included. Additionally, the illuminated-display unit includes a dome rotatably disposed atop the top surface of the base and engages the annular channel. The dome has a hollow domed structure configured to accept the plate therein and comprises a material with surface properties suitable to at least temporarily accept the ink thereon. The ink is disposed on a surface of the plate and/or dome. The light sources illuminate the ink on the one plate and dome. And the dome is manually or mechanically rotated atop the base.

With reference now to the figures, and in particular FIGS. 1-3, an illuminated-display unit 100 is described in accor-

dance with an embodiment of the invention. Illuminated-display unit **100** (hereinafter “unit **100**”) includes a base **102**, a plate **104**, and a dome **106**. The base **102** is a generally cylindrically shaped unit having any desired height and a diameter generally larger than the diameter of the dome **106**. The base **102** includes a platform **108** on a top surface having a receptacle **110** formed therein and forming an annular channel **112** between an outer perimeter of the platform and an inner perimeter of the base **102**.

Ridges **114** are included on each side of the receptacle **110** in order to form the sides of the receptacle **110** and/or to reinforce the receptacle **110**. The receptacle **110** is of sufficient dimensions to accept a bottom edge **116** of the plate **104** and to retain the plate **104** in a generally vertical orientation perpendicular to the platform **108**. One or more light sources are housed within the base **102** and are exposed along a bottom surface of the receptacle **110** in order to illuminate the plate **104** as described below. The light sources are composed of any light source available in the art include, for example, and not limitation, incandescent lights, light emitting diodes, fluorescent lights, and the like.

The annular channel **112** formed about the platform **108** is of sufficient dimensions to accept a bottom edge **118** of the dome **106**, a sufficient distance to hinder lateral movement of the dome **106** with respect to the base **102**. One or more lights are housed in the base **102** and are exposed along a bottom surface of the channel **112** such that when illuminated, the lights transmit light into the bottom edge **118** of the dome **106**. The channel **112** may also include one or more roller bearings, ball bearings, or other bearing or reduced-friction surfaces to allow the bottom edge **118** of the dome **106** to slide within channel **112** to produce rotational movement of the dome **106**. In an embodiment, the channel **112** includes a means for mechanically rotating the dome **106** with respect to the base **102**, such as for example a motor coupled to one or more drive wheels, gears, cogs exposed within the channel **112** and contacting the dome **106** when placed on the base **102**. In an embodiment, the light source(s) are housed within the base **102** and optical wave guides, fiber optics, or the like are employed to direct light from the light source to the channel **112** for transmission into the dome **106** or into the receptacle **110** for transmission into the plate **104**.

The base **102** also includes, on an exterior surface, a control panel **120** that protrudes a distance from the exterior surface of the base **102**. The control panel includes one or more buttons **122** and switches **124** for controlling one or more of lighting of the plate **104** and dome **106** and motion of the dome **106**. The buttons **122** and the switch **124** include any buttons or switches known in the art including momentary buttons and toggle switches, among others, which are suitable for use in activating and deactivating lights or motors housed within the base **102**. The control panel **120** also includes a front panel **123** on which a label **125** is placed.

The base further includes, equally spaced at three locations around the circumference of the exterior surface of the base, recesses **126** and scallops **128**. The recesses **126** extend in a lateral direction perpendicular to the height of the base **102**. The recesses **126** are each configured to removably accept a marker **130**. As such, a marker **130** is inserted into a recess **126** for storage while not in use.

The markers **130** comprise a dry-erase marker having ink characteristics and drawing characteristics suitable for use with the plate **104** and the dome **106**. The markers **130** include an ink of a predetermined composition that does not mar or stain the plate **104** or the dome **106** after prolonged exposure or repetitive use of the markers on the plate **104** and the dome **106**. Further, the markers **130** utilize an ink composition that

is easily erasable from the plate **104** and the dome **106** such that drawings may be placed on the plate **104** and the dome **106** and easily erased or removed therefrom. The markers **130** are described herein as dry-erase markers so as not to distract from the explanation of embodiments of the invention, however, this is not intended to limit embodiments of the invention to use of dry-erase markers. Any compatible marking device is useable and is contemplated in embodiments of the invention.

The scallops **128** are located beneath the recesses **126** around the circumference of the base **102**. The scallops **128** provide an easily graspable portion of the base **102** to allow a user to grip and lift the base **102** from a surface.

The plate **104** comprises a flat section of material having sufficient dimensions to be received by receptacle **110** of the base **102** and to fit within the interior of the dome **106**. The plate **104** thus has a straight bottom edge **116** and a curved upper edge **136** that mimics the interior shape of the dome **106**. In an embodiment, the curved upper edge **136** is parabolic in shape. The plate surface **132** is a broad, flat surface upon which a user uses the markers **130** to draw one or more images, pictures, or other drawings thereon (hereinafter “drawings”). In an embodiment, the plate has any desired form or shape. The plate **104** has two opposite sides, each of which comprises a flat plate surface **132** upon which a user may draw.

The dome **106** is a hollow parabolic dome having a circumference at the bottom edge **118** sufficient to be received by the channel **112** of the base **102**. Alternatively, the dome **106** may have any dome shape, such as for example and not limitation, elliptical, saucer, spherical, or any other dome shape suitable for use in embodiments of the invention. The interior of the dome **106** is of sufficient size and dimension to accept the plate **104** therein. The dome **106** further includes a knob **138** located at an apex or at the top of the dome **106** on an exterior surface. The knob **138** is of any configuration suitable for use in allowing a user to grasp the knob to lift and/or rotate the dome **106** on the base **102**. The dome **106** also includes an outer surface **140** on which a user places one or more drawings. The dome **106** and the plate **104** are comprised of a polycarbonate clear plastic, but may be comprised of any clear material such as, for example and not limitation, acrylics, glass, or any other suitable material. In an embodiment, the dome **106** is tinted or has one or more translucent or opaque sections.

With continued reference to FIGS. 1-3, the operation of the unit **100** is described in accordance with an embodiment of the invention. Initially, a user draws one or more drawings on the plate surface **132** of the plate **104** using the markers **130**. The user also draws one or more drawings on the outer surface **140** of the dome **106**. The bottom edge **116** of the plate **104** is inserted into the receptacle **110** of the base **102**. The receptacle **110** accepts the bottom edge **116** of the plate **104** a sufficient distance to support the plate **104** in a generally vertical orientation. The dome **106** is placed over the plate **104** and accepts the plate **104** within the interior of the dome **106**, as depicted best in FIG. 2. Also as depicted in FIG. 2, the markers **130** are coupled to the base **102** via the recesses **126** in order to store the markers **130** until later use.

A user activates one or more light sources housed within the base and exposed along a bottom surface of the channel **112** and the receptacle **110** using the buttons **122** and the switch **124**. The location of the one or more lights is generally indicated in FIG. 1 at locations **142**. The location of the lights with respect to the bottom edges **116** and **118** of the plate **104** and the dome **106** respectively allows the light to be transmitted into the plate **104** and the dome **106**. The light is

directed within the materials of the plate **104** and the dome **106** via internal reflection of the light by the material. In an embodiment, the plate **104** and the dome **106** provide total internal reflection of the light. As such, the plate **104** and the dome **106** are not substantially illuminated by the light and remain substantially dark or transparent. Further, where a user has provided drawings **134** and **144** on the surfaces **132** and **140** of the plate **104** or the dome **106** respectively the ink on the surfaces **132** and **140** is illuminated by refracting at least a portion of the light passing through the plate **104** and the dome **106** out of the plate **104** or dome **106** and provides a glowing effect. As such, when viewed in low ambient light conditions as depicted in FIG. 3, the drawings appear to glow in the dark.

The light sources included within the base **102** provide light within a predetermined spectrum or range of wavelengths that is suitable to illuminate the ink of the markers **130**. Such wavelengths may be in the blue region of the visible light spectrum or any other visible or non-visible spectrums of light. As such, the lights may illuminate the ink of the markers **130** by reflection of all or a portion of the light from the ink on the plate **104** or dome **106**, or the light may cause, produce, or catalyze a physical or chemical reaction in the ink which releases energy in the form of light. The light sources are light emitting diodes (LEDs), halogen lights, incandescent lights, black lights, or any other light technology. Further, the light sources may be of a single color such as blue, or may be multicolored, among various other configurations.

Lighting of the dome **106** and the plate **104** may take on many different configurations, including constant on or off of the light sources for both the plate **104** and the dome **106**, intermittent lighting of the plate **104** and/or the dome **106**, flashing of the lighting of the plate **104** and/or the dome **106**, or strobing of the light sources. Additionally, light sources contained beneath the channel **112** may be sequenced in a marquee fashion such that one or more light sources are illuminated at a time and de-illuminated to create the effect of lights moving through the channel **112** about the circumference of the base **102**.

As such, by providing drawings in a sufficient configuration about the dome **106**, a perception of animation of the figures drawn thereon is provided. The buttons **122** and the switch **124** also control rotation of the dome **106** about the base **102**. The buttons **122** and the switch **124** may activate one or more drive means within the base **102** that cause the dome **106** to rotate about a central axis on top of the base **102** in a clockwise or counterclockwise direction. Alternatively, the dome **106** may be rotated manually via the knob **138** at the apex of the dome **106**. In another embodiment, the plate **104** is also provided with rotational motion either manually or mechanically to provide an additional source of animated viewing.

With reference now to FIGS. 4A, 4B, and 5, an illuminated-display unit **200** is described in accordance with an embodiment of the invention. The illuminated-display unit **200** is similar to and operates in a similar fashion as the unit **100**. Illuminated-display unit **200** includes a base **202** having a somewhat different configuration than base **102** of the unit **100**. The base **202** of the illuminated-display unit **200** includes a control panel **204** having buttons **206** and a switch **208**. The control panel **204** also includes a front panel **210** upon which a label is applied. The control panel **204** is configured differently from that of the control panel **120** of the unit **100** in order to provide a modified appearance to the base **202**.

The base **202** also includes recesses **212** and scallops **214** as described above with respect to the unit **100**. Additionally,

illuminated-display unit **200** includes a plate **216** and a dome **218**, also as described previously. Each of the components **202-216** of the unit **200** operate as described above with respect to the unit **100**.

With reference now to FIGS. 6A and B, an illuminated-display unit **300** is described in accordance with an embodiment of the invention. Illuminated-display unit **300** includes a base **302**, a plate **304**, and a dome **306**. The base **302** is configured to resemble a rocket ship or a spaceship and has a control panel **308**, buttons **310**, a switch **312**, and a front panel **314**. The base **302** also includes handles **316** configured to resemble fins or wings on a rocket ship or a spaceship. The handles **316** also include on an upper surface a plurality of recesses **318** extending in a lateral direction perpendicular to the height of the base **302** and configured to removably couple to one or more markers (not shown) and to retain them while not in use. Each of the components **308-318** of the base **302** function and operate similarly to those described for illuminated-display units **100** and **200**.

The base **302** also includes along an upper surface **320** a thumb ring **322**. The thumb ring **322** forms at least a portion of a channel (not shown) such as channel **112** of the unit **100** for receiving a bottom edge (not shown) of the dome **306**. As such, the thumb ring **322** removably couples to the dome **306** when the dome **306** is placed atop the base **302**. The thumb ring **322** is rotatably coupled to the base **302**. Thus, a user rotates the thumb ring **322** in a clockwise or counterclockwise direction about base **302** in order to rotate the dome **306** in a clockwise or counterclockwise motion about the base **302**.

The plate **304** is similar in configuration to that described with respect to plate **104** of the unit **100**. The dome **306** is also similarly configured to the dome **106** of the unit **100**, except that no knob is present on the dome **306**.

In operation, the illuminated-display unit operates similarly to that of the unit **100**, including the operation of buttons **310** and the switch **312**. Illumination of the plate **304** and the dome **306** also occur similarly, and rotational movement of the dome **306** may be provided by mechanical means included in the base **302** or by manual means by manipulating the thumb ring **322**.

Many different arrangements of the various components depicted, as well as components not shown, are possible without departing from the scope of the claims below. Embodiments of the technology have been described with the intent to be illustrative rather than restrictive. Alternative embodiments will become apparent to readers of this disclosure after and because of reading the disclosure. Alternative means of implementing the aforementioned can be completed without departing from the scope of the invention. Certain features and sub-combinations are of utility and may be employed without reference to other features and sub-combinations and are contemplated.

What is claimed is:

1. An illuminated-display unit comprising:

a base including a platform on a top surface of the base, said platform having an outer perimeter and including a at least a portion of a receptacle, and further wherein the base comprises an inner perimeter and an annular channel, wherein the annular channel is formed between the outer perimeter of the platform and the inner perimeter of the base, said base also including one or more light sources disposed within said base;

a plate configured to be at least partially disposed within said receptacle, the plate having a generally planar shape and comprising a straight bottom edge, a curved upper edge, a first drawing surface, and a second drawing surface, said plate including surface properties suitable

7

to at least temporarily accept an ink thereon, wherein the curved upper edge is parabolic in shape, wherein the at least a portion of a receptacle is configured to accept the straight bottom edge of the plate at a sufficient distance to support the plate in a generally vertical orientation; and

a hollow parabolic dome disposed atop said top surface of said base and engaging said annular channel, said hollow parabolic dome having a hollow domed structure configured to accept said curved upper edge of said plate therein and having surface properties suitable to at least temporarily accept said ink thereon, said dome comprising a bottom edge around a perimeter of the dome and a third drawing surface, wherein the annular channel is configured to accept the bottom edge of the dome such that the bottom edge of the dome is disposed atop said top surface of the base,

wherein the parabolic shape of the curved upper edge of the plate corresponds to an interior shape of the hollow parabolic dome such that the curved upper edge of the plate mates to the interior shape of the hollow parabolic dome when the hollow parabolic dome is disposed atop the top surface of the base,

wherein the one or more light sources are configured to illuminate said ink on one or more of the first drawing surface, the second drawing surface, and the third drawing surface based on a location of the one or more light sources with respect to one or more of the receptacle and the annular channel.

2. The illuminated-display unit of claim 1, wherein said dome is rotatably disposed atop said top surface and is one of manually or mechanically rotateable.

3. The illuminated-display unit of claim 1, wherein said platform of said top surface of said base is manually or mechanically rotateable to rotate said plate with respect to said base.

4. The illuminated-display unit of claim 2, wherein said top surface of said base is manually or mechanically rotateable to rotate said plate with respect to said base and said dome and said plate are rotated in the same or different directions.

5. The illuminated-display unit of claim 1, wherein said ink is disposed on a surface of said plate and on a surface of said dome.

6. The illuminated-display unit of claim 1, wherein said one or more light sources housed within said base illuminate said ink on one or more of said plate and said dome.

7. The illuminated-display unit of claim 6, wherein said light sources are exposed along a surface of at least one of said receptacle and said annular channel or a light guiding material channels light from one or more of said light sources to at least one of said receptacle and said annular channel, said light guiding material being exposed in said at least one of said receptacle and said annular channel.

8. The illuminated-display unit of claim 6, wherein said illuminated ink provides a glow-in-the-dark effect.

9. The illuminated-display unit of claim 8, wherein light from said one or more light sources is internally reflected within one or more of said dome and said plate and said glow-in-the-dark effect is produced by one or more of refraction of said light from one or more of said dome or said plate, a chemical reaction in said ink resulting from exposure of said ink to said light, or a physical reaction in said ink resulting from exposure of said ink to said light.

10. The illuminated-display unit of claim 1, further comprising:

8

a control panel on an exterior surface having one or more components for controlling said one or more light sources.

11. The illuminated-display unit of claim 10, wherein said light sources one or more of strobe, illuminated in an ordered or random sequence, or illuminate in a marquee fashion.

12. The illuminated-display unit of claim 1, wherein said ink is a dry-erase ink.

13. A method for illuminating a drawing, the method comprising:

providing an illuminated-display unit that includes:

1) a base with a platform on a top surface of the base, said platform comprising an outer perimeter and a receptacle, wherein the base comprises an inner perimeter and an annular channel, and said base including one or more light sources disposed within said base, wherein the annular channel is formed between the outer perimeter of the platform and the inner perimeter of the base,

2) a plate configured to be at least partially disposed within said receptacle, the plate having a generally planar shape and including surface properties suitable to at least temporarily accept an ink thereon, wherein the plate comprises a curved upper edge, a straight bottom edge, a first drawing surface, and a second drawing surface, said curved upper edge being parabolic in shape, and

3) a hollow parabolic dome disposable atop said top surface of said base and engaging said annular channel having a hollow parabolic domed structure configured to accept said plate therein and comprising surface properties suitable to at least temporarily accept said ink thereon, wherein the dome comprises a bottom edge around a perimeter of the dome and a third drawing surface, wherein the annular channel is configured to accept the bottom edge of the dome such that the bottom edge of the dome is disposed atop said top surface of the base,

wherein the parabolic shape of the curved upper edge of the plate is configured to mate to the hollow parabolic domed structure when the bottom edge of the hollow parabolic domed structure is disposed atop the top surface of the base and the straight bottom edge of the plate is coupled to the receptacle at a sufficient distance to support the plate in a generally vertical orientation;

applying said ink to one or more drawing surfaces of one or more of said plate and said dome;

inserting at least a portion of said plate into said receptacle of said top surface of said base;

disposing said dome over said plate and engaging said annular channel; and

illuminating at least one of said one or more light sources in said base.

14. The method of claim 13, further comprising: rotating said dome with respect to said base, wherein said rotation is done manually or mechanically.

15. The method of claim 13, wherein said dome is manually rotated by using one or more of a handle at an apex of said dome and a thumb ring coupled to said annular channel.

16. The method of claim 13, further comprising: rotating said plate with respect to said base, wherein said rotation is done manually or mechanically.

17. The method of claim 14, further comprising: rotating said plate with respect to said base, wherein said rotation is done manually or mechanically, and wherein said dome and said plate rotate in the same or different directions.

18. The method of claim 13, wherein illuminating at least one of said one or more light sources supplies light to one or

9

more of said plate and said dome, said light is internally reflected within one or more of said plate and said dome, and said light causes said ink to provide a glowing effect by one or more of refraction of said light from one or more of said plate and said dome, a chemical reaction in said ink resulting from exposure of said ink to said light, or a physical reaction in said ink resulting from exposure of said ink to said light.

19. An illuminated-display unit comprising:

a base including a top surface having a receptacle and an annular channel, a control panel on an exterior surface having one or more components for controlling one or more light sources, and said one or more light sources housed within said base;

a plate at least partially disposed within said receptacle, having a generally planar shape and comprising a material with surface properties suitable to at least temporarily accept an ink thereon, wherein the plate comprises a curved upper edge, a straight bottom edge, a first drawing surface, and a second drawing surface, said curved upper edge being parabolic in shape;

a hollow parabolic dome rotatably disposed atop said top surface of said base and engaging said annular channel having a hollow parabolic domed structure configured to accept said plate therein and comprising a material with surface properties suitable to at least temporarily accept

10

said ink thereon, wherein said dome comprises a third drawing surface and a bottom edge around a perimeter of a body of the dome having a greatest circumference of the body of the dome, wherein the annular channel is configured to accept the bottom edge of the dome such that the bottom edge of the dome is disposed atop said top surface of the base,

wherein the parabolic shape of the curved upper edge of the plate is configured to mate to an interior of the hollow parabolic domed structure when the bottom edge of the hollow parabolic domed structure is disposed atop the top surface of the base and the straight bottom edge of the plate is coupled to the receptacle at a sufficient distance to support the plate in a generally vertical orientation;

wherein said ink is disposed on one or more of a drawing surface of said plate and a drawing surface of said dome; wherein said one or more light sources housed within said base illuminate said ink on said one or more of said plate and said dome; and

wherein said dome is one of manually or mechanically rotated atop said base.

20. The illuminated-display unit of claim **19**, wherein said illuminated ink provides a glow-in-the-dark effect.

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